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We note several American stragglers: the robin, of course, Swainson's thrush, yellow-billed cuckoo, several waders, and the American bittern, appearing strangely as *Botaurus freti-hudsoni* (Briss.).

R. H.

**Heliotropism of Cypridopsis.** — The reactions of a representative of the Ostracoda, *Cypridopsis vidua*, to light have been studied by Elizabeth W. Towle.<sup>1</sup> This animal, when dropped into the middle of a trough which is in the course of light rays from a Welsbach burner, may move either toward the source of light or away from it. Observation of individuals shows that an animal may at one time be positive, at another negative. One cause of this variation is found to be "contact." For, however strongly negative an animal may be, it can be rendered positive by being repeatedly taken up in a pipette or by disturbance of the water.

If while a *Cypridopsis* is moving toward the light the burner be shifted to the opposite end of the trough, the animal will immediately turn and follow it, thus keeping up a positive reaction. Likewise, if it is moving away from the light it may be observed to change its course each time the light is moved, or, in other words, to maintain its negative reaction. The only difference is this: "In all cases the positive response was temporary, while the negative one persisted as long as the animal could be kept in motion." Contact with the sides of the trough or pipette or with obstructions therein causes a change from negative to positive; whereas the change from positive to negative occurs independently of external conditions.

Miss Towle's experiments indicate that *Cypridopsis* cannot be characterized as positively phototactic, and the use of an India-ink prism as a means of getting regular gradations of light intensity led her to conclude that a photopathic reaction (*i.e.*, a response to difference of intensity of adjacent rays and not to the direction of the same) has *not* been proved thus far for any animal, and probably does not exist. As a result of careful tests with the prism she decides that "the direction of movement of *Cypridopsis* and of *Daphnia* in response to light does not result from an effort on the part of the animal to reach a certain optimum intensity. It is determined (1) by the direction of the impinging rays, and (2) by the relative value of these rays as forces acting upon the organism, *i.e.*, by their relative intensities."

<sup>1</sup> A Study in the Heliotropism of *Cypridopsis*, *Amer. Journ. of Phys.*, vol. iii (1900), No. 8.

The investigation is valuable, in that it reveals the importance of "contact" as a factor in the reactions of *Cypridopsis* to light. The problem has been suggested, rather than analyzed, by the author, and it demands further attention. Obviously the observations fail to disprove the possibility of photopathy or the selection of an optimum intensity, although they do emphasize the importance of the rays' directive influence.

R. M. YERKES.

**Notes.**—*Circular No. 40*, second series of the Division of Entomology of the United States Department of Agriculture, dealing in a brief synoptical way with the mosquitoes of North America, is of unusual general interest, since it renders evident, at a glance, whether or not a prevalent mosquito belongs to the genus *Anopheles*, which appears to comprise the species by which human malaria is chiefly, if not exclusively, spread.

Professor E. S. Morse, in "A Bubble-Making Insect" (*Appleton's Popular Science Monthly*, May, 1900), discusses the fluid accumulations of the Cercopidæ. A "look over the literature of the subject," considered "sufficient to indicate the common belief among entomologists," cites no authority later than 1869. In writing for general readers, the latest works, rather than the earlier classics, should be quoted, and even a "superficial survey" of what has been published on the subject, if directed aright, would not have been so wholly barren as Professor Morse's paper would indicate. The froth is stated to act as a protection against enemies; certain Hymenoptera, however, provision their nests with young cercopids selected from the spits.

In a separately paged extract from the Fourth Annual Report of the Commissioners of Fisheries, Game, and Forests of the State of New York, Dr. E. P. Felt gives an account of seven insects injurious to maple trees. The species treated are the white-marked tussock moth, *Notolophus leucostigma*, forest tent caterpillar, *Clisiocampa disstria*, leopard moth, *Zeuzera pyrina*, maple sesian, *Sesia acerni*, sugar-maple borer, *Plagionotus speciosus*, maple-tree pruner, *Elaphidion villosum*, and cottony maple-tree scale, *Pulvinaria innumerabilis*. The descriptions, though brief, are accurate and adequate, and with the illustrations make the recognition of the several species easy. The title-page and cover read, "Insects injurious to forest trees, 1898." The title line, however, gives, "Insects injurious to maple trees," and at the very outset Dr. Felt states his reasons for confin-